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Nota di contenuto	Energy Development -- Development of Fundamentals -- Grid Extension -- Off-Grid Systems -- Control of Off-Grid Systems -- Control of Off-Grid Systems -- Off-Grid Design Approaches -- Solar Home Systems & Solar Lanterns -- Economic and Business Considerations -- Practical Considerations -- Grid Connected Issues -- Case Studies.
Sommario/riassunto	This book provides students and practicing engineers with a comprehensive guide to off-grid electrification, from mini-grids, micro-grids and energy kiosks to solar home systems and solar lanterns. Readers will gain a solid technical understanding of off-grid electrical systems, learn best practices, and be prepared to engage with the complex and sensitive nature of electrification projects. This fully updated edition boasts over 100 pages of new content. It expertly

covers important off-grid technologies including solar, wind, hydro, generator sets, biomass systems, lead-acid and lithium-ion battery storage, and converters. Realistic examples and discussion highlight the interaction of off-grid systems with the economic, environmental, social, and broader development aspects of rural electrification. The operation and control, load and resource estimation, and design of off-grid systems are thoroughly covered. The book discusses other relevant issues including energy justice, community engagement, project monitoring and evaluation, and more. This instructor-friendly edition has been re-structured and re-organized into shorter chapters. Each chapter contains learning outcomes, illustrative examples, and problems that reinforce key concepts. Over 300 example and end-of-chapter problems along with more than 100 figures have been added. The book's complex, open-ended design problems challenge the reader to think critically and deeply. The book is appropriate for advanced undergraduate and graduate electrical and energy engineering, humanitarian engineering, and related technology courses. Provides a technical foundation of off-grid electrical systems Contextualizes the technical aspects for developing countries Offers state-of-the-art coverage of this rapidly growing field.